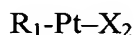


Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims

1. (currently amended) A liposomal antitumor composition, comprising a platinum complex having the formula

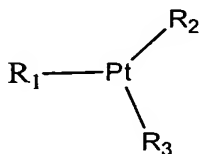


entrapped in a liposome, where the liposome comprises dioleoyl phosphatidyl glycerol, and where R_1 is diaminocycloalkyl and X is halogen.

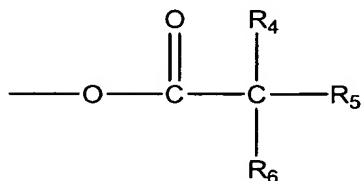
Claims 2-36 (canceled)

37. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising the steps:

(a) adjusting the pH of a composition comprising a liposome-entrapped first compound, so that the pH is made acidic, said first compound having the formula



where R_1 is diaminocycloalkyl and R_2 and R_3 independently have the formula

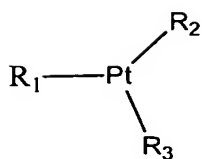


where R_4 , R_5 and R_6 are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms; and

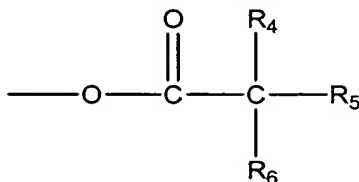
(b) after a predetermined time, adjusting the acidic pH of the composition of step (a) to a pH greater than 7.

38. (new) The liposomal antitumor composition of claim 37 where the adjusting of step (a) comprises adding an acidic solution.

39. (new) The liposomal antitumor composition of claim 38 wherein said acidic solution comprises sodium chloride.
40. (new) The liposomal antitumor composition of claim 38 wherein said acidic solution is an aqueous solution.
41. (new) The liposomal antitumor composition of claim 38 where the acidic solution is an acidic saline solution.
42. (new) The liposomal antitumor composition of claim 37 wherein said adjusted pH of step (a) is in the range of 2 to 6.5.
43. (new) The liposomal antitumor composition of claim 37 where the adjusting of step (b) comprises adding a buffer solution to the composition of step (a).
44. (new) The liposomal antitumor composition of claim 37 wherein the method further comprises before said adjusting of step (a), the step of entrapping said first compound in said liposome.
45. (new) The liposomal antitumor composition of claim 44 wherein said entrapping is done in the presence of sodium chloride or chloroform.
46. (new) The liposomal antitumor composition of claim 45 wherein said adjusting of step (a) comprises reconstituting a lyophilized composition containing the liposome-entrapped first compound using an acidic solution.
47. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising the steps:
- (a) adjusting the pH of a composition comprising a liposome-entrapped first compound, so that the pH is made acidic, said first compound having the formula



where R₁ is diaminocycloalkyl and R₂ and R₃ independently have the formula



where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula



where R₁ is as defined above and X is halogen; and

(b) after a predetermined time, adjusting the acidic pH of the composition of step (a) to a pH greater than 7.

48. (new) The liposomal antitumor composition of claim 47 where the adjusting of step (a) comprises adding an acidic solution.

49. (new) The liposomal antitumor composition of claim 48 wherein said acidic solution comprises sodium chloride.

50. (new) The liposomal antitumor composition of claim 48 wherein said acidic solution is an aqueous solution.

51. (new) The liposomal antitumor composition of claim 48 where the acidic solution is an acidic saline solution.

52. (new) The liposomal antitumor composition of claim 47 wherein said adjusted pH of step (a) is in the range of 2 to 6.5.

53. (new) The liposomal antitumor composition of claim 47 where the adjusting of step (b) comprises adding a buffer solution to the composition of step (a).

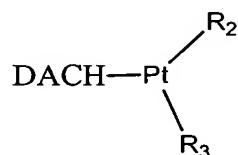
54. (new) The liposomal antitumor composition of claim 47 wherein the method further comprises before said adjusting of step (a), the step of entrapping said first compound in said liposome.

55. (new) The liposomal antitumor composition of claim 54 wherein said entrapping is done in the presence of sodium chloride or chloroform.

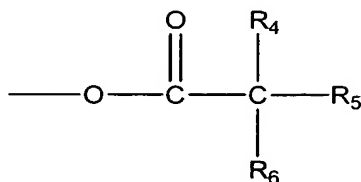
56. (new) The liposomal antitumor composition of claim 47 wherein said adjusting of step (a) comprises reconstituting a lyophilized composition containing the liposome-entrapped first compound using an acidic solution.

57. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising comprising the steps:

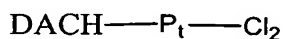
(a) adjusting the pH of a composition containing a liposome-entrapped first compound in the presence of sodium chloride, so that the pH is made acidic, said first compound having the formula



where DACH is 1,2-diaminocyclohexane and R_2 and R_3 independently have the formula



where R_4 , R_5 and R_6 are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula



where DACH is as defined above; and

(b) after a predetermined time, adjusting the acidic pH of the composition of step (a) to a pH greater than 7.

58. (new) The liposomal antitumor composition of claim 57 where the adjusting of step (a) comprises adding an acidic solution.

59. (new) The liposomal antitumor composition of claim 58 wherein said acidic solution comprises sodium chloride.

60. (new) The liposomal antitumor composition of claim 58 wherein said acidic solution is an aqueous solution.

61. (new) The liposomal antitumor composition of claim 58 where the acidic solution is an acidic saline solution.

62. (new) The liposomal antitumor composition of claim 57 wherein said adjusted pH of step (a) is in the range of 2 to 6.5.

63. (new) The liposomal antitumor composition of claim 57 where the adjusting of step (b) comprises adding a buffer solution to the composition of step (a).

64. (new) The liposomal antitumor composition of claim 57 wherein the method further comprises before said adjusting of step (a), the step of entrapping said first compound in said liposome.

65. (new) The liposomal antitumor composition of claim 64 wherein said entrapping is done in the presence of sodium chloride or chloroform.

66. (new) The liposomal antitumor composition of claim 57 wherein said adjusting of step (a) comprises reconstituting a lyophilized composition containing the liposome-entrapped first compound using an acidic solution.

67. (new) A method for treating cancer, the method comprising administering to a mammal in need thereof the liposomal antitumor composition of any one of claims 37, 47 or 57.

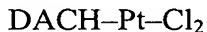
68. (new) The method of claim 67, wherein said mammal is a human.

69. (new) The method of claim 67, wherein said mammal has a cancer that is ovarian cancer, testicular cancer, lung cancer, cancer of the head or neck, esophageal cancer, bladder cancer, a sarcoma, a lymphoma or a mesothelioma.

70. (new) A pharmaceutical composition comprising an amount of the liposomal antitumor composition of any one of claims 37, 47 or 57 effective to treat cancer and a pharmaceutically acceptable carrier or diluent.

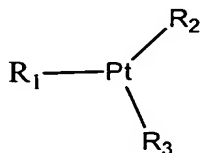
71. (new) The liposomal antitumor composition of any one of claims 1, 37, 47 or 57, wherein said liposome is the product of a process comprising mixing chloroform solutions of lipids.

72. (new) A liposomal antitumor composition, comprising a platinum complex having the formula

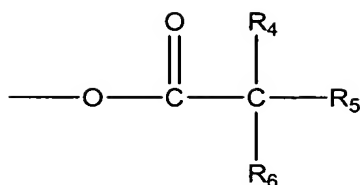


intercalated between the bilayers of a liposome, where DACH is diaminocyclohexane, and where the liposome comprises dioleoyl phosphatidyl glycerol and is the product of a process comprising mixing chloroform solutions of lipids.

73. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising adjusting the pH of a composition containing a liposome-entrapped first compound, so that the pH is made acidic, said first compound having the formula

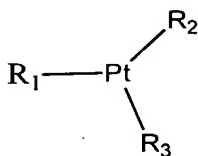


where R_1 is diaminocycloalkyl and R_2 and R_3 independently have the formula

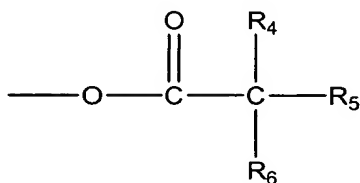


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, and where said liposome comprises dioleoyl phosphatidyl glycerol and is the product of a process comprising mixing chloroform solutions of lipids.

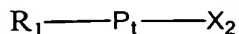
74. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising adjusting the pH of a composition containing a liposome-entrapped first compound, so that the pH is made acidic, said first compound having the formula



where R₁ is diaminocycloalkyl and R₂ and R₃ independently have the formula

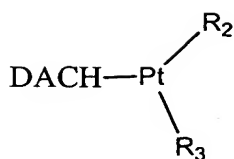


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

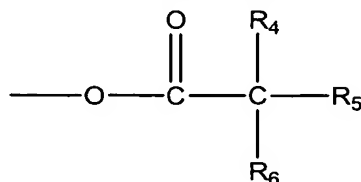


where R₁ is as defined above and X is halogen, and where said liposome comprises dioleoyl phosphatidyl glycerol and is the product of a process comprising mixing chloroform solutions of lipids.

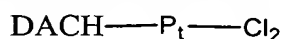
75. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising adjusting the pH of a composition containing a liposome-entrapped first compound in the presence of sodium chloride, so that the pH is made acidic, said first compound having the formula



where DACH is 1,2-diaminocyclohexane and R_2 and R_3 independently have the formula

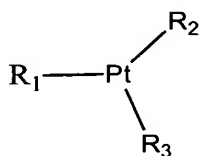


where R_4 , R_5 and R_6 are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

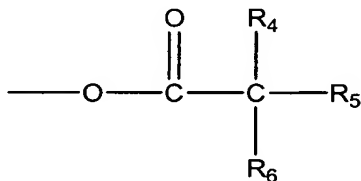


where DACH is as defined above, and where said liposome comprises dioleoyl phosphatidyl glycerol and is the product of a process comprising mixing chloroform solutions of lipids.

76. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a liposome comprising an acidic phospholipid that is dioleoyl phosphatidyl glycerol, said liposome being the product of a process comprising mixing chloroform solutions of lipids, to produce a liposomal composition, said first compound having the formula



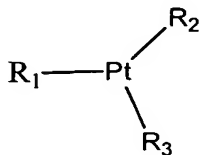
where R_1 is diaminocycloalkyl and R_2 and R_3 independently have the formula



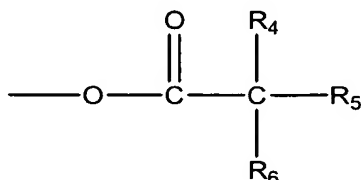
where R_4 , R_5 and R_6 are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms.

77. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a

liposome comprising an acidic phospholipid that is dioleoyl phosphatidyl glycerol, said liposome being the product of a process comprising mixing chloroform solutions of lipids, to produce a liposomal composition, said first compound having the formula



where R₁ is diaminocycloalkyl and R₂ and R₃ independently have the formula

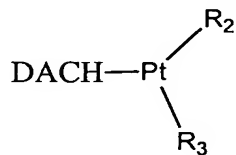


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

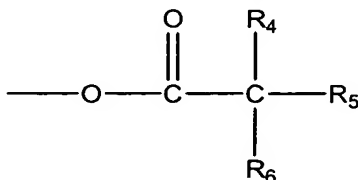


where R₁ is as defined above and X is halogen.

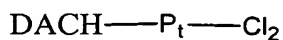
78. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a liposome comprising an acidic phospholipid is dioleoyl phosphatidyl glycerol, said liposome being the product of a process comprising mixing chloroform solutions of lipids, to produce a liposomal composition, said first compound having the formula



where DACH is 1,2-diaminocyclohexane and R₂ and R₃ independently have the formula

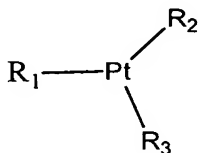


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

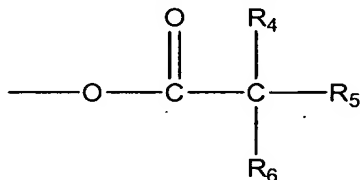


where DACH is as defined above.

79. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a liposome comprising an acidic phospholipid that is dioleoyl phosphatidyl glycerol, wherein said entrapping is done in the presence of sodium chloride or chloroform, to produce a liposomal composition, said first compound having the formula

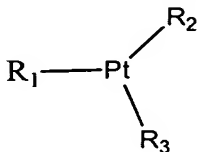


where R₁ is diaminocycloalkyl and R₂ and R₃ independently have the formula

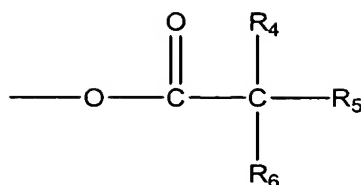


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms.

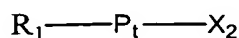
80. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a liposome comprising an acidic phospholipid that is dioleoyl phosphatidyl glycerol, wherein said entrapping is done in the presence of sodium chloride or chloroform, to produce a liposomal composition, said first compound having the formula



where R₁ is diaminocycloalkyl and R₂ and R₃ independently have the formula

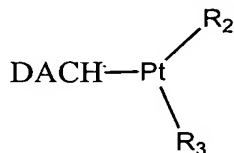


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

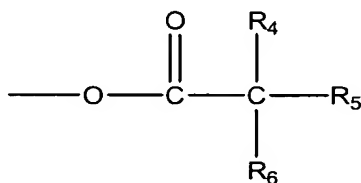


where R₁ is as defined above and X is halogen.

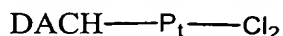
81. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a liposome comprising an acidic phospholipid is dioleoyl phosphatidyl glycerol, wherein said entrapping is done in the presence of sodium chloride or chloroform, to produce a liposomal composition, said first compound having the formula



where DACH is 1,2-diaminocyclohexane and R₂ and R₃ independently have the formula

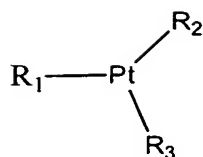


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

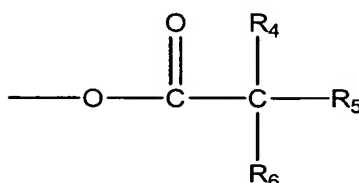


where DACH is as defined above.

82. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising adjusting the pH of a composition containing a liposome-entrapped first compound, so that the pH is made acidic, said first compound having the formula

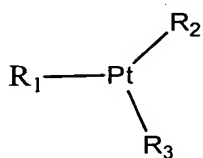


where R₁ is diaminocycloalkyl and R₂ and R₃ independently have the formula

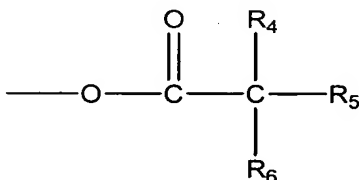


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, where said liposome comprises dioleoyl phosphatidyl glycerol, and where 20% of said first compound is transformed into said platinum complex.

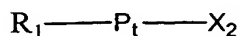
83. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising adjusting the pH of a composition containing a liposome-entrapped first compound, so that the pH is made acidic, said first compound having the formula



where R₁ is diaminocycloalkyl and R₂ and R₃ independently have the formula

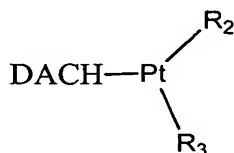


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

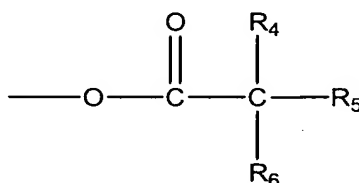


where R_1 is as defined above and X is halogen, where said liposome comprises dioleoyl phosphatidyl glycerol, and where 20% of said first compound is transformed into said platinum complex.

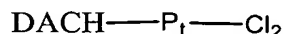
84. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising adjusting the pH of a composition containing a liposome-entrapped first compound in the presence of sodium chloride, so that the pH is made acidic, said first compound having the formula



where DACH is 1,2-diaminocyclohexane and R_2 and R_3 independently have the formula

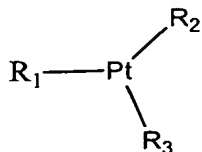


where R_4 , R_5 and R_6 are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

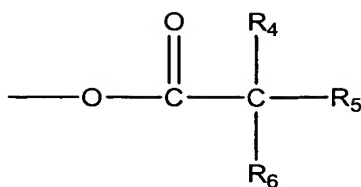


where DACH is as defined above, where said liposome comprises dioleoyl phosphatidyl glycerol, and where 20% of said first compound is transformed into said platinum complex.

85. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a liposome comprising an acidic phospholipid that is dioleoyl phosphatidyl glycerol to produce a liposomal composition, said first compound having the formula

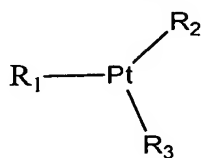


where R_1 is diaminocycloalkyl and R_2 and R_3 independently have the formula

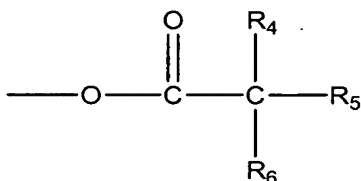


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, and where 20% of said first compound is transformed into said platinum complex.

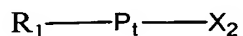
86. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a liposome comprising an acidic phospholipid that is dioleoyl phosphatidyl glycerol to produce a liposomal composition, said first compound having the formula



where R₁ is diaminocycloalkyl and R₂ and R₃ independently have the formula

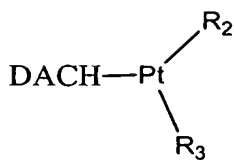


where R₄, R₅ and R₆ are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula

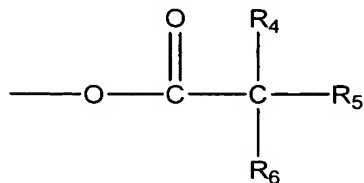


where R₁ is as defined above and X is halogen, and where 20% of said first compound is transformed into said platinum complex.

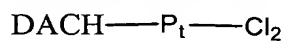
87. (new) A liposomal antitumor composition comprising a platinum complex, the composition formed by a method, the method comprising entrapping a first compound in a liposome comprising an acidic phospholipid is dioleoyl phosphatidyl glycerol to produce a liposomal composition, said first compound having the formula



where DACH is 1,2-diaminocyclohexane and R_2 and R_3 independently have the formula



where R_4 , R_5 and R_6 are each independently hydrocarbon moieties having from 1 to about 10 carbon atoms, said platinum complex having the formula



where DACH is as defined above, and where 20% of said first compound is transformed into said platinum complex.

88. (new) The liposomal antitumor composition of claim 57 wherein in step (a), greater than 80% of said first compound is transformed into said platinum complex.

89. (new) The liposomal antitumor composition of any one of claims 82-87 wherein 50% of said first compound is transformed into said platinum complex.

90. (new) The liposomal antitumor composition of any one of claims 82-87 wherein 90% of said first compound is transformed into said platinum complex.